Appl. No. 10/064,053
Amdt. dated June 30, 2005
Reply to Office action of March 30, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): A method for recovering an absolute time in pre-groove (ATIP)
clock and an ATIP signal from a wobble signal through a reference clock, the ATIP
clock being synchronized with the ATIP signal and the reference clock comprising a
plurality of reference periods, each of the reference periods having a fixed interval,
~~The~~ the method comprising:
counting a number of reference periods of the reference clock occurring within a
period of the wobble signal and generating a corresponding counting result;
generating an average number according to a long-term average of the counting
results;
generating a wobble clock according to the average number and the reference clock;
generating the ATIP signal according to the average number and the counting result;
and
generating the ATIP clock according to the ATIP signal and the wobble clock.

2 (original): The method of claim 1 wherein the wobble clock is generated by dividing the
reference clock by the average number.

3 (original): The method of claim 1 wherein when generating the ATIP signal, a
comparing result is first generated by comparing the counting result and the average
number, and the ATIP signal is then generated by shaping a waveform of the
comparing result through the wobble clock.

4 (original): The method of claim 3 wherein the ATIP signal comprises a first signal and a
second signal, a duration of the first signal corresponds to an interval of the wobble

4

signal in which a number of reference periods is more than the average number, and
a duration of the second signal corresponds to an interval of the wobble signal which
has reference periods less than the average number.

5   5 (original): The method of claim 4 wherein the ATIP clock is generated according to a
synchronization between the ATIP signal and the wobble signal.

6 (currently amended): A circuit for generating a wobble clock through a reference clock
and a wobble signal, the reference clock comprising a plurality of reference periods,
10   each of the reference periods having a fixed interval, the circuit comprising:
a counter for counting the wobble signal according to the reference clock;
a digital average processor connected to the counter for averaging an output of the
counter to generate an average number;
<u>a comparator for comparing the output of the counter with the average number so as</u>
15   <u>to generate an ATIP signal;</u> and
a divider for dividing the reference clock by the average number so as to generate
the wobble clock.

7 (cancelled).
20

8 (currently amended): The circuit of ~~claim 7~~ <u>claim 6</u> wherein the ATIP signal comprises
a first signal and a second signal, a duration of the first signal corresponds to an
interval of the wobble signal in which a number of reference periods is more than the
average number, and a duration of the second signal corresponds to an interval of the
25   wobble signal which has reference periods less than the average number.

9 (currently amended): The circuit of ~~claim 7~~ <u>claim 6</u> further comprising a waveform
shaping processor connected to the divider and the comparator for synchronizing the

5

Appl. No. 10/064,053
Amdt. dated June 30, 2005
Reply to Office action of March 30, 2005

ATIP signal with the wobble signal.

10 (original): The circuit of claim 6 further comprising a synchronization circuit for
generating an ATIP clock synchronized with the ATIP signal through triggers of the
wobble clock.

11 (original): The circuit of claim 10 wherein the synchronization circuit further
comprises a status generator for generating a status signal according to a voltage
level of the ATIP signal when triggered by the wobble signal; when the ATIP signal
changes the voltage level, the status signal changes its status according to the ATIP
signal when triggered by the wobble signal.

12 (original): The circuit of claim 11 wherein the synchronization circuit further
comprises a period counter for counting a number of periods occurring within a
period of the wobble signal according to the status signal so as to generate the ATIP
clock.

13 (new): The method of claim 1 wherein the ATIP signal is generated by comparing the
counting result with the average number to generate the ATIP signal.

6